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USING VISUAL HIGHLIGHTING TO TEACH DISCRIMINATIONS AND PATTERNS

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Every day in classrooms throughout the country one can find children experiencing visual discrimination problems. One can also find a massive amount of teaching effort directed towards correcting those same problems, too often with limited success. Recent research has raised many questions about the usefulness of the most popular commercially available training materials (i.e. Frostig, Kephart, Michigan Tracking). However, research has also identified useful techniques that classroom teachers might employ.

The theoretical base for the methods discussed herein is a process called visual search. When attempting to discriminate visually between two objects a search for the differences between the items occurs. For example, when attempting to identify a police vehicle, many people look for one of the many distinctive features that can be used (e.g. the colored warning on the roof; the distinctive color or markings). These gross featural differences make identification quite easy. However, if one is attempting to identify an unmarked police vehicle the task is more difficult. In other words, finer discriminations are required. The lack of success in this discrimination can often be proven on the nation's highways. The point is, whenever one attempts to differentiate between the objects, distinctive features play an important role.

Research has demonstrated that there are differences between the search processes employed by good and poor readers. The primary finding being that good readers know how and where to focus attention, while poor readers apparently do not. That is, poor readers use ineffective cues such as initial letter; word shape; or word length when attempting to identify isolated words. Good readers search out the effective cues and employ them in making discriminations. Thus, research has identified what many teachers have long known; poor readers mix up familiar words which are highly similar. For example, they mix up such words as (went—want, what—that, where—there, was—saw).

The strategy for correcting these errors must be one that assists the poor reader in doing what seemingly comes naturally for good readers: identification of distinguishing or distinctive features. A promising strategy for accomplishing this is the use of color cues. Several research studies have demonstrated the usefulness of using a single color to highlight or emphasize those features to which the learner must attend. Either a technique of underlining or printing the distinctive features in the color chosen seem to benefit the learner by focusing attention where it is most useful. Whether the object to be discriminated is a letter, word, or shape this type of assistance facilitates learning.

In daily classroom practice, the teacher may want to provide these contrasts when introducing new words to eliminate errors from the outset. The teacher might also employ this strategy to correct errors as they occur in reading situations. In either case several rules of thumb are wise to follow.

First, make sure you have identified the features that are relevant to the task. Color highlighting can be used to identify similarities as well as differences. Whether one wants the learner to notice that *want* and *went* differ in the second letter, or that *hat*, *cat* and *fat* each end in the same pattern, color cues will facilitate focusing student attention.

Second, pairing words or letters with separate colors may be detrimental to learning. That is, the child may learn to identify the stimulus on the basis of color alone without identifying the desired features. Training programs which provide multiple color cues have generally been ineffective. The learners respond to the color rather than the letter or word.

Third, color cues can facilitate identification of distinctive features and discriminations, but not all students who mix up similar words need this type of training. Many learners can discriminate *went/want* but still confuse them when reading. Thus, the basic task here is teaching the child to associate the correct verbal response with the visual symbol. A teacher who is confused as to which problem a student may have can use this simple test. Provide the learner with a string of the two letters or words to be discriminated. Generally, three of one and one of the other such as *want went want want*. Now ask the child to mark the one that is different. If this task is completed correctly, the teacher can assume the child can discriminate between the stimuli but has not developed the correct verbal associations for each. Tasks which require the child to mark either a symbol representing a spoken stimulus or to name or read a stimulus are association

tests not tests of visual discrimination. Similarly, discrimination training is useless for those children who can discriminate but cannot associate the correct verbal response.

SUMMARY

Color cues can be used to facilitate visual discriminations. However, caution must be taken when supplying these cues. The teacher must also identify whether a discrimination error is the source of the problem. Further, color cues can be used to facilitate identification of patterns in words. For the teacher attempting to teach word patterns, color cues can assist the student in identification of the necessary features.

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Illustrative uses of color cues in discrimination training

w <u>e</u> nt	w[e]nt	went
w <u>a</u> nt	w[a]nt	want
<u>w</u> as	[w]as	was
<u>s</u> aw	[s]aw	saw
<u>b</u> →	b]	b
← <u>d</u>	[d	d
<u>th</u> ere	th[ere]	there
<u>th</u> ree	th[ree]	three

Illustrative uses of color in identifying patterns

pat	r[ing]	land
hat	th[ing]	band
cat	w[ing]	hand
rate	[m]ouse	swing
fate	[m]an	sweet
late	[m]arble	swim

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